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AUTHOR Darden, Joe T.
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ABSTRACT

This study presents quantitative evidence that the inability of blacks to pay for housing in white residential areas in Flint, Michigan is not the major cause of black residential segregation. The following questions are asked: (1) Has black residential segregation in Flint remained at a high level from 1950 to 1970? (2) Has the trend in black residential segregation in Flint been one of continuous increase through time? (3) What census tracts have been the most segregated? (4) What types of racial change have occurred? and (5) How much black residential segregation can be explained by housing costs inequality? In this study a high level of segregation is arbitrarily defined as a racial population change index above 50 percent. That is, Flint has a high level of segregation if more than half of its population of either race would have to change residence to make it zero percent segregated, or non-segregated. Comparison of spatial distributions of blacks and whites show that a high level of black residential segregation existed in Flint from 1950 to 1970--above 50 percent; there were actual decreases in the level of black residential segregation over the 20 year period; and there have been decreases in certain areas of Flint and increases in others. Correlation and regression analysis demonstrated that 26 percent of the black residential segregation that existed could be explained by housing cost inequality between blacks and whites in 1950; 7 percent in 1960; and 3 percent in 1970. (Author/DE)

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THE RESIDENTIAL SEGREGATION OF BLACKS IN FLINT, 1950-1970

by

Joe T. Darden
Michigan State University

SO 009 255

A Revised Version of a Paper presented at the Annual Meeting of the East Lakes Division of the American Association of Geographers, St. Catharines, Ontario, October 4, 1975.

ABSTRACT

THE RESIDENTIAL SEGREGATION OF
BLACKS IN FLINT, 1950-1970

The magnitude of, and changes in racial residential segregation in Flint, Michigan from 1950 to 1970, and the extent to which residential segregation is caused by housing cost inequality between blacks and whites are determined. Data were obtained from United States Census Tract Statistics. Indices of segregation revealed that racial residential segregation has remained at a high level, i.e., above 50 percent, although there were declines over the twenty year period.

Multiple correlation and regression analysis revealed that only a small amount of the residential segregation of blacks can be attributed to housing cost inequality. The implication of this study is that the major obstacle to racial residential desegregation is not the cost of housing.

THE RESIDENTIAL SEGREGATION OF BLACKS IN FLINT, 1950-1970

Although the fact that many blacks can afford housing in white residential areas has been well documented,[1] there are those who continue to distort the primary cause of black residential segregation by stressing that a lack of money is a major obstacle to reducing residential segregation.[2] Thus the role of economics or lack of money as a factor in black residential segregation has continued to be debated. This study presents quantitative evidence that the inability of blacks to pay for housing in white residential areas is not the major cause of black residential segregation. Flint, the third largest city in Michigan, was chosen as the study area.

Demographic Characteristics of Flint, 1950-1970

In 1950, Flint had a black population of only 13,906 compared to a white population of 149,100.[3] By 1960, the black population had more than

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[1] J. T. Darden: Afro-Americans in Pittsburgh: The Residential Segregation of a People (Lexington, 1973), pp. 38-39; R. Langendorf: Residential Desegregation Potential, Journal of the American Institute of Planners, Vol. 35, 1969, pp. 90-95; H. Rose: Social Processes in the City: Race and Urban Residential Choice, Commission on College Geography, Resource paper #6 (Washington, D.C., 1969), pp. 20-21; D. A. Wallace: Residential Concentration of Negroes in Chicago [unpublished Ph.D. dissertation, Harvard University, 1953], p. 195; A.H. Pascal: The Economics of Housing Segregation, Memorandum, RM-5510-RC, The Rand Corporation (Santa Monica, 1967); A. I. Hermalin and R. Farley: The Potential for Residential Integration in Cities and Suburbs: Implications for the Busing Controversy, American Sociological Review, Vol. 38, 1973, pp. 595-610.

[2] A.C. Ross: The Role of the Justice Department in School Desegregation. Paper presented at the National Education Conference on School Desegregation (Topeka, 1974), p. 4.

[3] U.S. Department of Commerce. Bureau of the Census: U.S. Census of Population: 1950, Census Tract Statistics, Vol. 3 (Washington, D.C., 1952) p. 7.

doubled to 34,521 while the white population increased to 162,128.[4] From 1960 to 1970 the black population increased again from 34,521 to 54,237 or by 57.1 percent. On the other hand, the white population declined from 162,128 to 138,065 or by 14.8 percent.[5]

Flint is second to Detroit in volume of automotive production and parts manufacturing. While such demographic characteristics are helpful in understanding racial differential population growth patterns, it is doubtful whether the population growth or size of Flint's black population has much influence on the spatial pattern of black residential segregation or the amount of racial segregation.

The Spatial Patterns and Spatial Dynamics of Residential Segregation, 1950-1970

Having traced the demographic characteristics of Flint's population, we will now examine the spatial pattern and the degree of residential segregation of blacks in that city from 1950 to 1970. It is the purpose of this paper to answer the following questions: (1) Has black residential segregation in Flint remained at a high level from 1950 to 1970? (2) Has the trend in black residential segregation in Flint been one of continuous increase through time? (3) What census tracts have been the most segregated? (4) What types of racial change have occurred? and (5) How much black residential segregation can be explained by housing cost inequality?

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[4]U.S. Department of Commerce. Bureau of the Census: U.S. Censuses of Population and Housing: 1960, Census Tracts, Final Report PHC (1)-47. (Washington, D.C., 1962), p. 14.

[5]U.S. Department of Commerce. Bureau of the Census: Census of Population and Housing: 1970, Census Tracts, Final Report PHC (1)-70 Flint, Michigan, SMSA, p. 1.

In this study a high level of segregation is arbitrarily defined as a Gini index above 50 percent. That is, Flint has a high level of segregation if more than half its population of either race would have to change residence to make it 0.00 percent segregated, or non-segregated. The Gini index accompanied by a Lorenz or segregation curve is a very effective tool for comparing spatial distributions of racial groups and has the additional advantage over similar tools in providing a graphical representation of the results. Computation of the Gini index and segregation curve proceeded as follows.[6] Census tracts were arranged in order from high to low on the basis of the percentage black. With this ordering, for each tract the cumulative percentage of the city's blacks residing in each tract was computed. Also the cumulative percentage of the city's whites residing in each tract was computed. The white cumulative percentages were then plotted against the black cumulative percentages to derive a Lorenz or segregation curve.

The rationale of the Gini index and Lorenz or segregation curve is as follows: If the spatial distribution of blacks and whites were even, then every census tract would have equal percentages of the city's total population of blacks and whites making the cumulative percentages of these groups equal with a Gini index equal to 0.00. The Lorenz or segregation curve would be a straight line at a 45-degree angle. On the other hand, if the spatial distribution of whites and blacks were completely uneven, with each census tract either all white or all black, the Lorenz or segregation curve would be coincident with the axes and the Gini index would be

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[6] A computer program (Gini) from the Michigan State University Computer Center was used to compute the Gini index and plot the Lorenz or segregation curve.

1.00. The size of the Gini index number indicates the amount of black residential segregation, i.e., the larger the number, the greater the black residential segregation and the greater the deviation of the segregation curve from the straight line at a 45-degree angle.[7]

In 1950 the level of segregation between blacks and whites in Flint was 88.9 percent (Fig. 1). Figure 2 shows the amount of segregation in each census tract of the city.[8] The black population was highly segregated as indicated by the internal spatial pattern. The degree to which it was segregated in each census tract may be determined by examining the percent racial deficit, or segregation index, for each tract. The higher the percent racial deficit, the greater the segregation. In 1950 there were two black segregated areas (a cluster of two or more contiguous census tracts). The largest segregated area, consisting of four tracts, was bounded by East Pierson Road on the north and East Harriet on the south. On the west it was bounded by North Saginaw and extended to the Flint River on the east. The most segregated tract in the city of Flint (tract 5) existed within this area. It had a percent racial deficit of 16.22 percent, indicating that 16.22 percent of the blacks in Flint would have had to move out of this tract and be replaced with 16.22 percent of the whites

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[7]For more discussion of the Gini index and Lorenz or segregation curve, see Darden: op. cit. [footnote 1 above], pp. 4-5; K.E. Taeuber and A.F. Taeuber: Negroes in Cities: Residential Segregation and Neighborhood Change (Chicago, 1965), pp. 202-203; D. Sears and D. Faytell: Black Residential Segregation in American Metropolitan Regions: Some Changes During the 1960-1970 Decade, Review of Public Data Use, Vol. 2, 1974, p. 36.

[8]A map of the census tracts of Flint is provided in the appendix.

TRENDS IN THE RESIDENTIAL SEGREGATION OF BLACKS IN FLINT 1950 - 1970

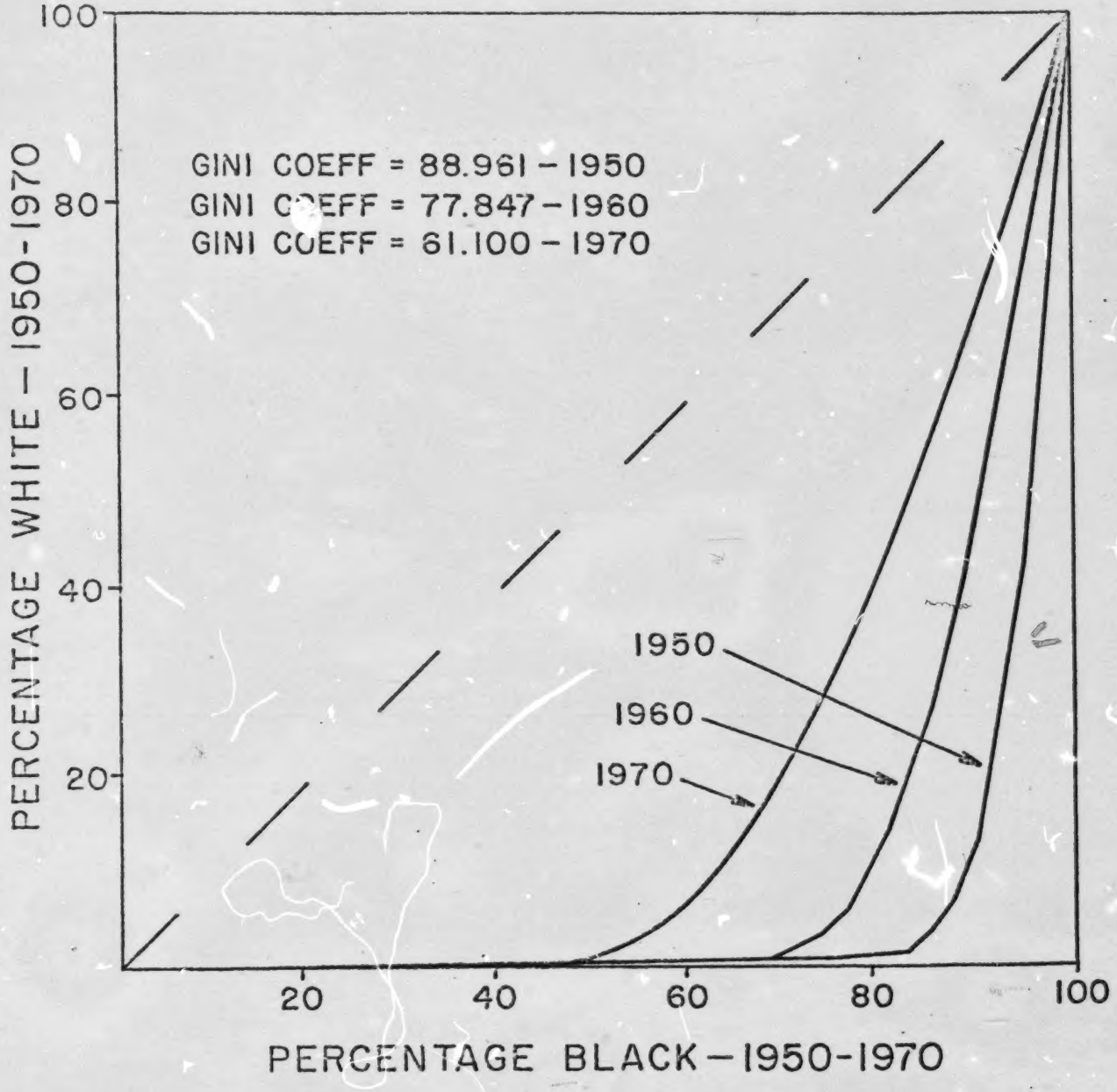

Figure 1

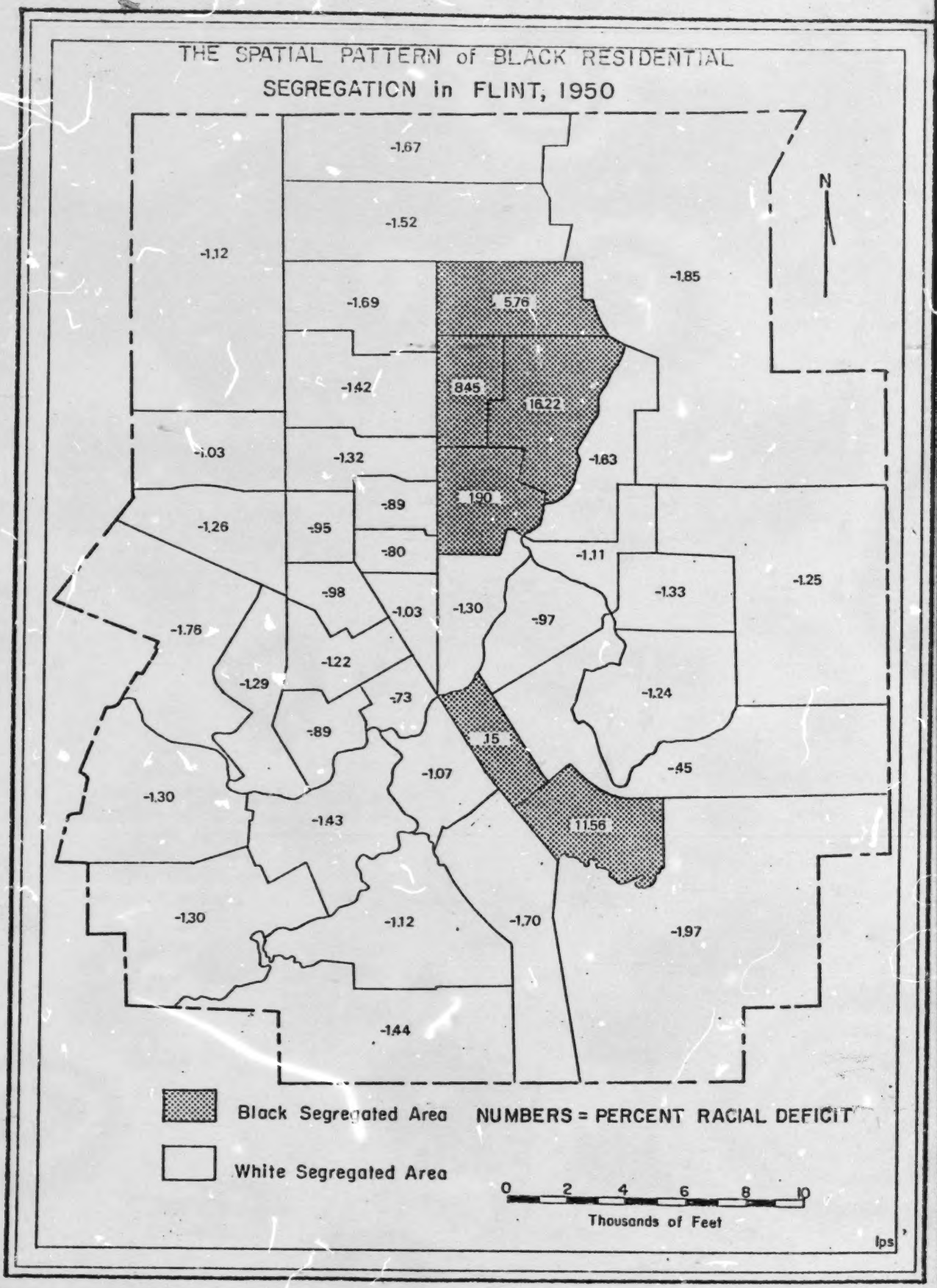
THE SPATIAL PATTERN of BLACK RESIDENTIAL
SEGREGATION in FLINT, 1950
-1.67
-1.52
-1.12
-1.85
-1.69
5.76
-1.42
8.45
16.22
-1.03
-1.32
-1.83
1.90
-.89
-1.26
-.95
-.80
-1.11
-1.25
-.98
-1.33
-1.03
-1.30
-.97
-1.76
-1.22
-1.29
-.73
-1.24
-.89
15
-1.07
-.45
-1.30
-1.43
11.56
-1.30
-1.12
-1.70
-1.97
-1.44
N
Black Segregated Area
White Segregated Area
NUMBERS = PERCENT RACIAL DEFICIT
0 2 4 6 8 10
Thousands of Feet
lps

Figure 2

in Flint. The degree of black residential segregation was so high in 1950, that within the four tracts composing the area resided 71.5 percent of all of the blacks in Flint. Most of the remaining blacks (25.6 percent) lived in an area (composed of two census tracts) (Fig. 2) that was bounded by the Flint River on the north, Thread Lake on the south, South Saginaw street on the west and Liberty and Lapeer roads on the east. Twenty-six percent of Flint's black population was concentrated in these two census tracts. Thus, in 1950, 97.5 percent of Flint's total black population was concentrated in six census tracts out of a total of 41.

By 1960, segregation of blacks in Flint had decreased 11.1 percentage points to 77.8 percent (Fig. 1). Figure 3 shows the spatial pattern of black segregation for Flint in 1960. The most segregated tract in the city was again tract 5, this time with a racial deficit of 7.24 percent, illustrating a decline in segregation in this tract. The spatial pattern of the black population obviously changed during the decade as manifest by Figure 3. The black population had diffused north to the Flint city limits. It diffused south across East Harriet street, connecting the two black segregated areas, thus forming one massive continuous area of black settlement. After the two black segregated areas were connected, there was a diffusion of the black population eastward along Lapeer road to the city limits.

In terms of our classification of census tracts as black segregated or white segregated, a tract has experienced racial change if in one decade it has a deficit of blacks, for example, but in another decade it

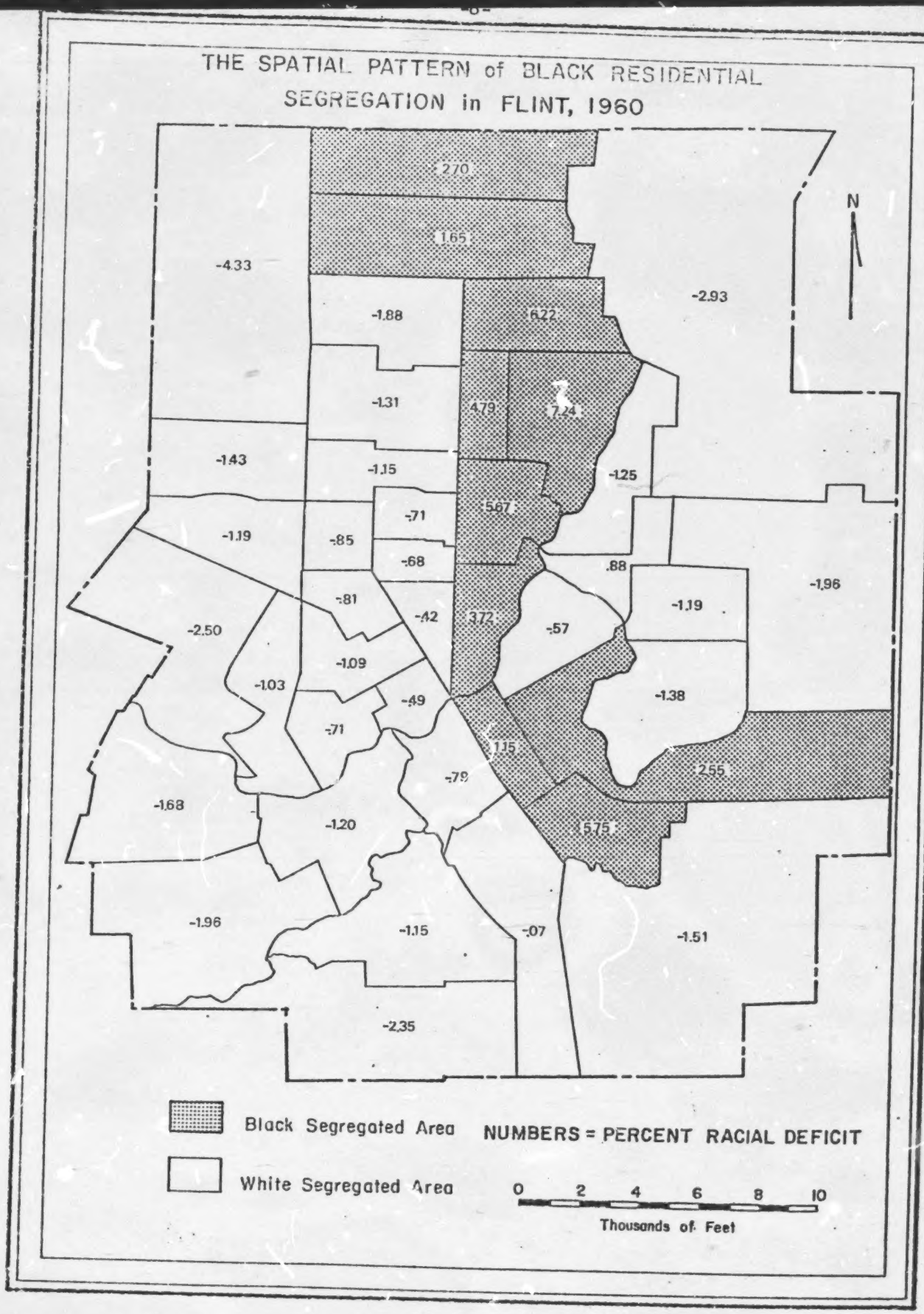
THE SPATIAL PATTERN of BLACK RESIDENTIAL SEGREGATION in FLINT, 1960
N
2.70
1.65
-4.33
-2.93
-1.88
6.22
-1.31
4.79
7.24
-1.43
-1.15
-1.25
5.67
-.71
-1.19
-.85
-.68
.88
-1.96
-.81
-.42
3.72
-.57
-1.19
-2.50
-1.09
-1.03
-1.38
-.49
-.71
1.15
2.55
-.79
-1.68
-1.20
5.75
-1.96
-1.15
-.07
-1.51
-2.35
Black Segregated Area
White Segregated Area
NUMBERS = PERCENT RACIAL DEFICIT
0 2 4 6 8 10
Thousands of Feet

Figure 3

has a deficit of whites.[9] During the decade 1950-1960 four tracts in Flint experienced racial change, as summarized in Table 1. All four tracts changed from white to black.[10]

From 1960 to 1970 black residential segregation again decreased in Flint, by 16.7 percentage points. The Gini index in 1970 was 61.1 percent (Fig. 1). Between 1960 and 1970 continued spatial diffusion of the black population resulted in several internal spatial changes in black residential segregation. Tract 5 was no longer the most segregated tract in the city. Such distinction had shifted to tract 1 which was bounded by the city limits on the north, Russell Avenue on the south, Dupont Street on the west and Belview Avenue on the east. Tract 1 had a racial deficit of 4.40 percent (Fig. 4).

During the decade 1960-1970 nine tracts experienced racial change (Table 2). The predominant type of racial change was from white to black. All except one tract was characteristic of such a change. The exception was tract 8, which changed from black to white. Such a change, however, was attributed to a slight change in tract boundaries.

Now that the spatial pattern and spatial dynamics of black residential segregation in Flint have been determined, we can turn to an assessment of the question, how much of the black residential segregation that has

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[9]Theoretically, a census tract can experience racial change in six different ways: (1) black to white, (2) black to nonsegregated, (3) white to black, (4) white to nonsegregated, (5) nonsegregated to black, and (6) nonsegregated to white. See Darden: op. cit. [footnote 1 above], p. 14. However, during the 1950-1970 period there were no tracts in Flint that could be classified as nonsegregated.

[10]Such type of racial change has been typical in American cities. See O.D. Duncan and B. Duncan: The Negro Population of Chicago: A Study of Residential Succession (Chicago, 1957), pp. 11 and 12; Also A.F. Taeuber: Comparative Urban Analysis of Negro Residential Succession [unpublished Ph.D. dissertation, University of Chicago, 1962], chapter 2.

TABLE 1

Percent Racial Deficit Among Census Tracts Experiencing Racial Change, 1950-1960

Tract Number	Percent Racial Deficit, 1950	Type of Racial Change	Percent Racial Deficit, 1960
1	1.67	White to Black	2.70
2	1.52	White to Black	1.65
7	1.30	White to Black	3.72
15	.45	White to Black	2.55

Source: Author

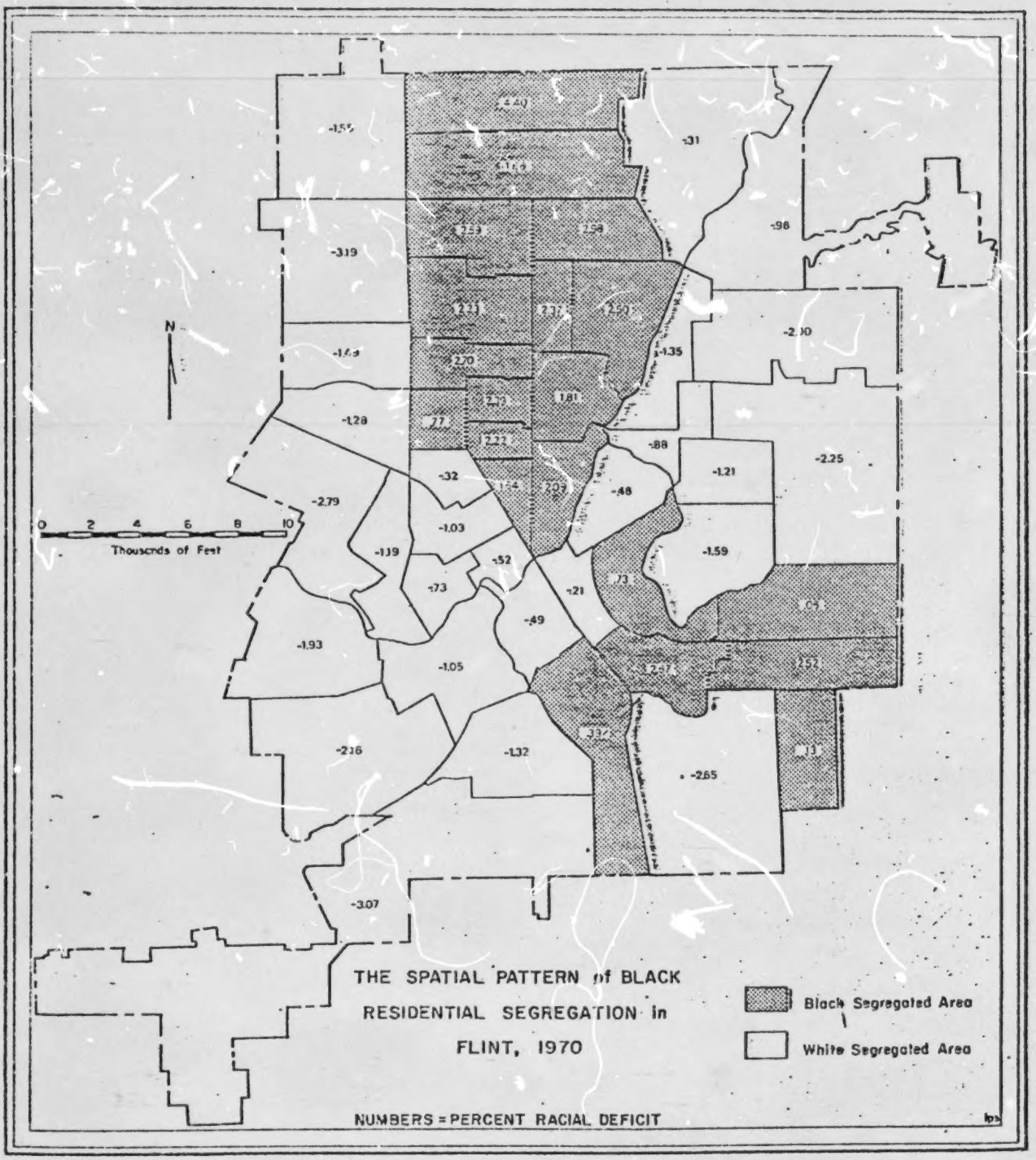
N
0 2 4 6 8 10
Thousands of Feet
THE SPATIAL PATTERN of BLACK
RESIDENTIAL SEGREGATION in
FLINT, 1970
Black Segregated Area
White Segregated Area
NUMBERS = PERCENT RACIAL DEFICIT

Figure 4

TABLE 2

Percent Racial Deficit Among Census Tracts Experiencing Racial Change, 1960-1970

Tract Number	Percent Racial Deficit, 1960	Type of Racial Change	Percent Racial Deficit, 1970
8	1.15	Black to White	.39
19	1.88	White to Black	2.59
20	1.31	White to Black	2.23
21	1.15	White to Black	2.70
22	.85	White to Black	.77
23	.71	White to Black	2.39
25	.68	White to Black	2.22
26	.42	White to Black	1.64
33	.07	White to Black	.39

Source: Author

existed in Flint can be explained by housing cost inequality between the races, i.e., the inability of blacks to pay for housing in white residential areas?"

Housing Cost as a Factor in Black Residential Segregation

To ascertain the relative significance of housing cost in explaining the high level of black residential segregation, percent black by census tract was regressed against percent low value housing and percent low rent housing by census tracts. Low value housing was defined as housing below the median value for the Standard Metropolitan Statistical Area (SMSA) as a whole.[11] The variables "low value housing" and "low rent housing" were coded for the regression analysis by computing the percentage of housing in each tract that was below the SMSA's median housing value and median housing rent. For example, if no housing in the tract had a value below the median value for the SMSA, the figure for the variable would be zero percent. On the other hand, if all of the housing in the tract had a value below the median value for the SMSA, the figure for the variable would be

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[11] For the purpose of this study, "value" is defined as the amount for which the owner estimates that the property, including any land that belongs with it, would sell if it were for sale. The value data are limited to owner-occupied, one-family houses on less than ten acres, without a commercial establishment or medical office on the property. Owner-occupied cooperatives, condominiums, mobile homes and trailers are excluded from the value tabulations. "Rent" in this study refers to contract monthly rent for the years 1950 and 1970 and gross monthly rent for 1960. Data on the distribution of contract monthly rent for 1960 were not available. Contract rent is monthly rent agreed to, or contracted for, even if the furnishings, utilities or services are included. Gross rent, on the other hand, is the contract rent plus the average monthly cost of utilities. For the years 1950, 1960 and 1970, Flint's median housing value was, respectively, $6,929, $9,000, $16,300, and its median rent $47.72, $83.00 and $108.00. See U.S. Department of Commerce: op. cit. [footnotes 3, 4 and 5 above], pp. 19, 46 and H-1 respectively.

100 percent. In other words, dollar value of housing was not coded; instead such dollar values were used to derive a percentage of the housing in each tract that was low value or low rent. This percentage was then used in the regression equation.

Regression analysis was carried out for Flint for 1950, 1960 and 1970, and the results are presented in Table 3. In the table, the coefficient of correlation r indicates the total strength of the relationship between the dependent and the independent variables. The coefficient of determination, r^2, provides an estimate of the proportion of the total spatial variation in the dependent variable that can be explained by the independent variables. The independent variable (in this case, percent low value housing or percent low rent housing) that is "best", i.e., that has the highest partial correlation with the dependent variable (in this case, percent black by census tract) is listed first. Only those variables with a significance level less than .250 are included in the final regression equations (Table 3).

In 1950, the location of low value housing was the most significant variable in explaining black residential segregation in Flint. However, this variable only explained 26 percent of the total spatial variation in the dependent variable, leaving 73 percent unexplained.

In 1960, the lack of racial inequality in housing cost as a primary factor in black residential segregation in Flint was more evident. The location of low rent housing explained only 7 percent of the total spatial variation in the dependent variable.

TABLE 3

Regression Coefficients for the Effects of Housing Value and Rent on Black Residential Segregation for Flint, 1950, 1960, and 1970

Gini	Variable	Regression Coefficient (b)	Unexplained Variation
		1950	
88.9	Percent LVH	.6163	
	r = .5169*		
	r^2 = .2672		73%
		1960	
77.8	Percent LRH	.5282	
	r = .2677		
	r^2 = .0716		93%
		1970	
61.1	Percent LRH	.3934	
	r = .1906		
	r^2 = .0363		97%

*Significant at the .001 level of confidence

Percent LVH = Low Value Housing

Percent LRH = Low Rent Housing

Source: Computed by the author from data derived from U.S. Department of Commerce. Bureau of the Census: U.S. Census of Population: 1950, Census Tracts, Vol. 3 (Washington, D.C., 1952); U.S. Censuses of Population and Housing: 1960; Census Tracts, Final Report PHC (1)-47 (Washington, D.C., 1962; Census of Population and Housing, 1970, Census Tracts, Final Report PHC (1)-70 (Flint, Michigan, SMSA.)

In 1970, the location of low rent housing explained only 3 percent of the total spatial variation in the dependent variable, leaving 97 percent unexplained.

Summary and Conclusions

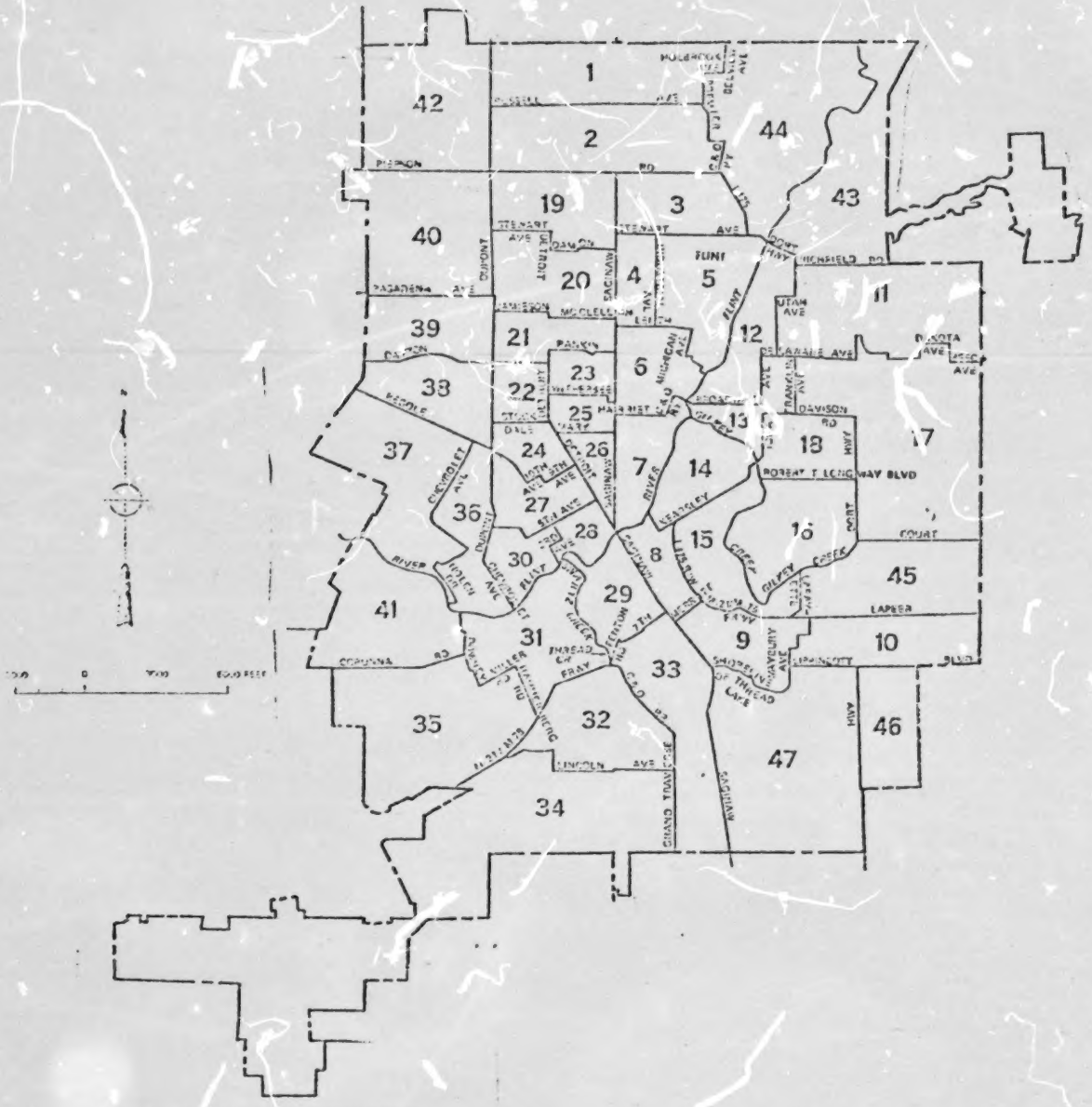
The results of this study show that a high level of black residential segregation existed in Flint from 1950 to 1970.

The results also show that from 1950 to 1970 there were decreases in the level of black residential segregation.

Thus residential segregation has remained at a high level, i.e., above 50 percent, from 1950 to 1970, but there have been decreases in certain areas of Flint and increases in others.

Correlation and regression analysis demonstrated that only 26 percent of the black residential segregation that existed could be explained by housing cost inequality between blacks and whites in 1950; 7 percent in 1960; and 3 percent in 1970. The significance of this study is that the major obstacle to reducing the high level of black residential segregation in Flint is not the cost of housing in white residential areas.

Flint Census Tracts, 1970



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